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PATENT SPECIFICATION



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(Divided out of No. 428,455.)

428,003

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Complete Specification Accepted: May 3, 1935.

PROVISIONAL SPECIFICATION

Improvements in or relating to Photographic Cameras

I, NOEL PEMBERTON BILLING, a British Subject, of Messrs. London Laboratories, 6, Lower Regent Street, London, S.W.1, do hereby declare the nature of 5 this invention to be as follows:—

This invention consists in improvements in or relating to cameras and is directed to modifications of and improvements in the camera and associated parts 10 described in the Provisional Specification of British Patent No. 423,035.

This invention includes novel features which will be set forth below under a heading corresponding to that included 15 in the said specification.

STAND ATTACHMENT.

This now comprises a plate which may be clipped to the camera body when not 20 in use and this forms a protective front for the collapsible body of the camera when not in use. The plate has three tracks one of which is a slot and another

of which is parallel thereto. A knurled headed set-screw passes through the slot to secure the camera to the plate and 25 projections from the camera body engaged in the second track which is in the form of a shallow depression. Thus by means of these two tracks the camera can slide from end to end of the plate for the 30 purpose of stereoscopic exposures. The third track is circular and when the camera body has been centred on the plate the set-screw will be at the geometrical centre of the circular track and the two 35 projections from the body can travel round in the track for the purpose of panoramic exposures.

Dated this 17th day of July, 1934.

BOULT, WADE & TENNANT,
111 & 112, Hatton Garden, London,
E.C.1,
Chartered Patent Agents.

COMPLETE SPECIFICATION

Improvements in or relating to Photographic Cameras

I, NOEL PEMBERTON BILLING, a British Subject, of Messrs. London Laboratories, 6, Lower Regent Street, London, S.W.1, do hereby declare the nature of 40 this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention consists in improvements in or relating to photographic cameras and has for its object to provide 50 a novel cover or closure member for the camera body capable also of use for supporting the latter to enable the camera to be used readily for the taking of either panoramic or stereoscopic pictures at will.

According to the present invention the 55 cover or closure member comprises a plate which is formed to serve also as a support for the camera and which has means to co-operate with an element securable to and capable of projecting from the camera body to produce by such co-operation a pivotal mounting of the latter and an alternative mounting permitting lateral movement of the camera body,

whereby the latter may be guided to 65 move into successive positions required for making stereoscopic and/or panoramic exposures.

Preferably the plate is provided with a hole and a slot through either of which 70 a screw constituting the element securable to the camera body may pass and take into a threaded socket afforded by the camera body. Preferably also the plate is provided with an arcuate indicator to assist when the camera body is 75 pivotally mounted in locating successive positions of the camera body relative to its support for making panoramic exposures.

Conveniently the plate forming the combined support and closure member for the camera body is provided in combination with a camera body comprising a plurality of telescopically arranged body 85 sections the innermost ones of which are adapted to be retained by the cover or closure member within the outermost body section, and the plate and the outermost body section of the camera are then 90

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preferably provided with co-operating clips for securing the plate in position as a cover or closure member.

In order that the invention may be more clearly understood one preferred example will now be described in detail with the aid of the accompanying drawings, in which—

Figure 1 is a plan of the cover or closure member,

Figure 2 is a part section of the cover taken on the line 2—2 of Figure 1,

Figure 3 is a side elevation of a camera body showing the cover in position,

Figure 4 is an elevation partly in section showing the camera body mounted on a support constituted by the cover in a position suitable for making panoramic exposures,

Figure 5 is a plan of the parts shown in Figure 4 with the camera swung round at an angle from the position shown in Figure 4, and

Figure 6 is a plan similar to Figure 5 showing the camera in position on the support in a position suitable for making stereoscopic exposures.

Like reference numerals indicate like parts in the several Figures of the drawings.

The camera body 10 is diagrammatically illustrated in the form constituting the subject-matter of Letters Patent No. 423,035. In such a construction the camera body comprises a plurality of telescopically arranged sections the innermost ones of which are collapsible within the outermost body section. The body sections 11 and 12 are shown as extended in Figures 4, 5 and 6.

The cover or closure member according to the present invention comprises a plate 13 having formed in it a slot 14 parallel to one side thereof, a screwthreaded aperture 15 spaced in front of the slot 14 and an angular scale 25 marked on the surface of the plate concentric with the aperture 15. Formed inwardly from one side of the plate, which will be the lower side when in use as a support for the camera body, is a screwthreaded aperture 16 shown most clearly in Figure 4, intended for engagement with a correspondingly threaded stud projecting as usual from the head of a tripod 17 (Figure 4).

In the body 10 of the camera there is a screwthreaded socket 18 to receive a clamping screw 19 for the purpose now to be explained.

When the plate 13 is to be employed as a support for the camera body for the purpose of making stereoscopic exposures the screw 19 will be passed through the slot 14 into the socket 18 as clearly indicated in Figure 6. The edges of the slot

on what will be the underside of the plate 13 in use are chamfered to accommodate the head of the screw 19. In making stereoscopic exposures the screw 19 is tightened to clamp the camera to the plate with the screw at one extreme end of the slot 14 as shown in Figure 6. The camera is then sighted and focussed on the object to be photographed and an exposure is made. Thereafter without shifting the position of the plate 13 the screw 19 is then loosened, the camera body is slid over the plate to bring the screw to the opposite end of the slot 14 and the screw is again tightened, whereupon a second exposure is made. The pictures from the two exposures thus made afford a pair of pictures constituting a stereoscopically related pair.

When panoramic exposures are to be made the screw 19 is passed through the aperture 15 into the socket 18 whereupon the camera can be turned to various angular positions on the plate while the latter is maintained in a stationary position. The scale will be marked for example with the numerals 1, 2, 3 and 4, as shown in Figures 5 and 6, to indicate four positions in which exposures can be made so that the pictures thus obtained join up in sequence one to the other. In Figure 5 the camera is shown in a position for taking the third picture of a panoramic series and the double headed arrow 20 in that Figure indicates that the camera can be revolved about the screw 15 in either direction.

The first panoramic exposure will be made with the camera square to the lower edge of the plate as seen in plan view in Figures 1, 5 and 6, with the optical axis of the lens at right angles to that side, that is to say, pointing in line with the marking 1 along the line 2—2. After this exposure has been made the camera can be moved so that its optical axis is in line with the marking 2 and a further exposure made and so on to bring the optical axis for successive exposures into line with the markings 3 and 4.

Before each exposure is made the screw 19 can be tightened if necessary so that there shall be no chance of movement of the camera during the actual exposure.

The plate 13 is formed with recesses such as 21 to pass over and co-operate with spring headed studs 22 projecting from the outermost section of the camera body, thus enabling the plate 13 to be used as a front closure member for the camera body as illustrated in Figure 3 to retain the innermost body sections within the outermost section.

The invention is not limited to the precise details of construction illustrated;

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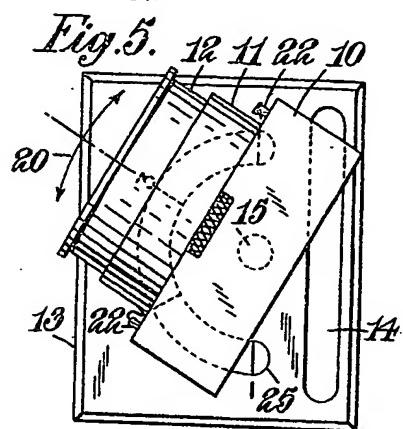
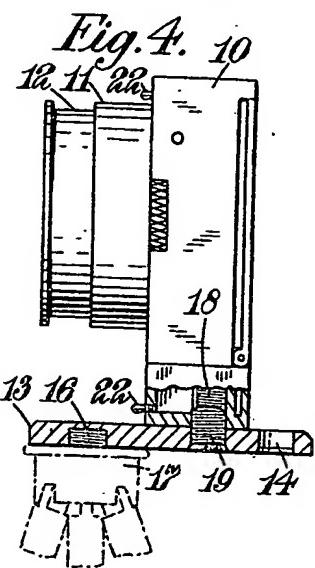
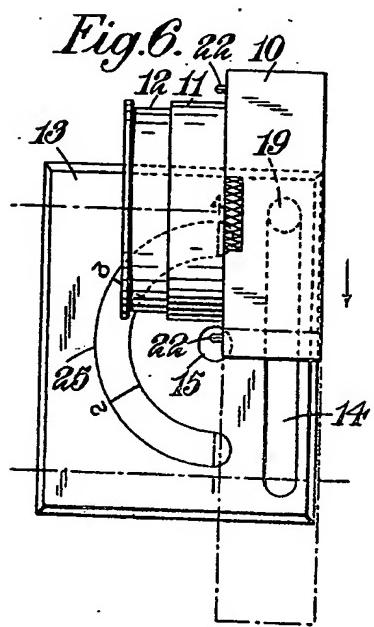
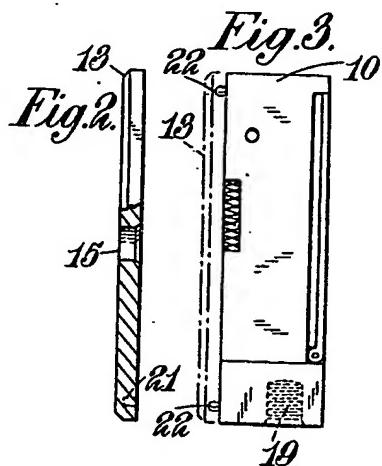
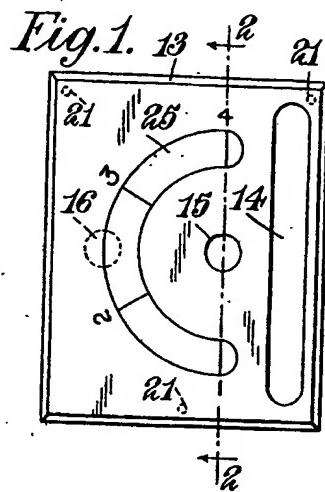
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- for instance, the co-operating clips 21, 22 may be substituted by any other form of clip that may be preferred. Instead of a simple scale marking such as 15 an 5 arcuate slot may be provided concentric with the axis of the aperture 15 and a click, stop or other locating means may be employed co-operating between the camera body and the slot to indicate when 10 the camera has been turned relatively to the plate to the proper position for an exposure and to locate it in that position.
- Alternatively, the scale 15 may be substituted by recesses spaced apart in a circular path concentric with the axis of the aperture 15 and a spring click on the camera, for example, a spring pressed ball, may be employed to enter each recess in turn to locate the camera in the required exposure position. As a further alternative a plurality of spring clicks may be provided spaced apart on the plate 13 to engage in turn in a recess or in 20 recesses in the camera body for a similar purpose.
- Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim 25 is:—
1. In or for a photographic camera, a closure member or cover for the camera body comprising a plate which is formed to serve also as a support for the camera 30 and which has means to co-operate with an element securable to and capable of projecting from the camera body to produce by such co-operation a pivotal mounting of the latter and an alternative 35 mounting permitting lateral movement of the camera body, whereby the latter may be guided to move into successive positions required for making stereoscopic and/or panoramic exposures.
 2. In or for a photographic camera a closure member or cover according to Claim 1 in which the plate is provided 40 with a hole and a slot through either of which a screw constituting the element 45 securable to the camera body may pass
- and take into a threaded socket afforded by the camera body.
3. In or for a photographic camera, a closure member or cover according to Claim 1 or 2 in which the plate is provided with an arcuate indicator to assist when the camera body is pivotally mounted, in locating successive positions of the camera body relative to its support for making panoramic exposures. 55
 4. In or for a photographic camera, a closure member or cover according to claim 3 combined with mechanical locating or positioning means co-operating between the camera body and its support for the several panoramic positions of the camera body. 60
 5. In or for a photographic camera, a closure member or cover according to any one of the preceding claims in which the element securable to the camera body can be locked to restrain pivotal or lateral movement of the latter relatively to its support. 65
 6. In or for a photographic camera, a closure member or cover according to any of the preceding claims in combination with a camera body comprising a plurality of telescopically arranged body sections of the innermost ones of which are adapted to be retained by the cover or closure member within the outermost body section. 70
 7. In or for a photographic camera, a cover or closure member according to Claim 6 combined with co-operating clip elements on the outermost body section of the camera and on the plate constituting the said cover or closure member to locate and secure the latter in position on the camera body. 75
 8. In or for a photographic camera, a combined cover or closure member and support for the camera body substantially as shown in the accompanying drawings. 80
- Dated this 17th day of July, 1934.
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[This Drawing is a reproduction of the Original, on a reduced scale.]